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Docket No.: PA-0020 US

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addressed to: Commissioner for Patents, Washington, D.C. 20231
on January 18, 2002
By: *Debbie Ellis*
Printed: Debbie Ellis

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Sornasse et al.

Title: GENES REGULATED BY HUMAN CYTOKINES

Serial No.: 09/435,247

Filing Date: November 05, 1999

Examiner: Sheinberg, M

Group Art Unit: 1631

Assistant Commissioner for Patents
Office of Initial Patent Examination
Customer Service Center
Washington, D.C. 20231

REQUEST FOR A CORRECTED FILING RECEIPT

Sir:

Attached is a copy of the Official Filing Receipt received from the United States Patent and Trademark Office in the above application for which issuance of a corrected filing receipt is respectfully requested. Please make the correction as follows:

1. Under the section "Title," please replace "Genes Regulated Human Cytokines" with -Genes Regulated **By** Human Cytokines-.

Applicants hereby request that the above correction be entered based on the following enclosed documents:

1. Copy of application return receipt postcard;
2. Copy of Application Transmittal Sheet (1 pg.); and
3. Copy of first page of Application Specification.

Applicants believe that no fee is due with this paper. However, if the Commissioner determines that a fee is necessary, the Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. **09-0108**.

Respectfully submitted,

INCYTE GENOMICS, INC.

Date: January 18, 2002 for David D. Shute Reg. No. 43,168
Lynn E. Murry, Ph.D.
Reg. No. 42,918
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JUN 16 2000



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OC000000005130027

**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: ASSISTANT SECRETARY AND
COMMISSIONER OF PATENT AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/435,247	11/05/1999	1643	890	PA-0020 US	-	20	2

Incyte Pharmaceuticals Inc
3174 Porter Drive
Palo Alto, CA 94304

Date Mailed: 05/22/2000

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the PTO processes the reply to the Notice, the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

Thierry Sornasse, Mountain View, CA ;
Benjamin Graeme Cocks, Sunnyvale, CA ;
Bharati Sanjawala, Los Altos, CA ;

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Continuing Data as Claimed by Applicant

Foreign Applications

If Required, Foreign Filing License Granted 04/28/2000

Title

~~Genes regulated human cytokines~~
Genes regulated by human cytokines

Preliminary Class

435

Data entry by : HOPKINS, AUDREY

Team : OIPE

Date: 05/22/2000





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Express Mail No.: EL 315 816 867 US

Mailed: November 5, 1999

Docket No.: PA-0020 US

ASSISTANT COMMISSIONER FOR PATENTS
BOX PATENT APPLICATION
WASHINGTON, D.C. 20231

Inventors: Thierry Sornasse, Benjamin Graeme Cocks, Bharati Sanjawala

Title: **GENES REGULATED BY HUMAN CYTOKINES**

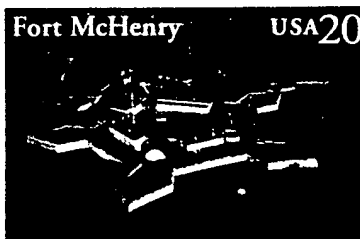
Enclosed:

- ☒ Return Receipt Postcard
- ☒ Transmittal for Patent Application (in duplicate)
- ☒ Submission Letter under 37 CFR 1.821 and 1.825
- ☒ One Computer Readable Diskette
- ☒ 34 pages of Specification (1-34)
- ☒ 2 pages of Claims (35-36)
- ☒ 1 page of Abstract (37)
- ☒ 14 pages of Tables (Table 1 (4); Table 2 (1); Table 3 (1); Table 4 (8))
- ☒ 200 pages of Sequence Listing
- ☒ 4 pages - Unexecuted Declaration/Power of Attorney
- ☐ Other:

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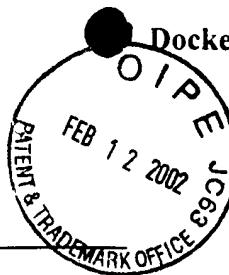


INCYTE PHARMACEUTICALS, INC.
Patent Legal Department
3174 Porter Drive
Palo Alto, CA 94304

"Express-Mail" mailing label number EL 315 816 867 US. I hereby certify that this document and referenced attachments are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR § 1.10, addressed to: Assistant Commissioner for Patents, Box Patent Application, Washington, D.C. 20231 on November 5, 1999

By: Nancy Ramos

Printed: Nancy Ramos

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Assistant Commissioner for Patents
Box Patent Application
Washington, D.C. 20231

Transmitted herewith for filing is the patent application of:

Inventors: Thierry Sornasse, Benjamin Graeme Cocks, and Bharati Sanjawala

Title: **GENES REGULATED BY HUMAN CYTOKINES**

Enclosed are:

☒ Return postcard:☒ 34 Pages of Specification (1-34);☒ 2 Pages of Claims (35-36);☒ 1 Page of Abstract (37);☒ 14 Pages of Tables (Table 1 (4 pages); Table 2 (1 page); Table 3 (1 page); Table 4 (8 pages);☒ 200 Pages of Sequence Listing (Sequence Nos. 1-516);☒ 4 Pages - Unexecuted Declaration and Power of Attorney; and☒ 1 Page of Sequence Listing Statement and one (1) Computer-Readable Diskette.

Fee Calculation - The fee has been calculated as follows:

CLAIMS AS FILED (fees computed under § 1.16)

Claims	Number Filed	Minus	Number Extra	Other Than Small Entry Rate Fee		Basic Fee
						\$760.00
Total Claims	20	-20	0	x \$18	0	\$0
Indep. Claims	2	-3	0	x \$78	0	\$0
Multiple Dependent Claim(s), if any				+ \$260		\$

TOTAL FILING FEE \$ 760.00

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The Commissioner is hereby authorized to charge Incyte Pharmaceuticals, Inc. Deposit Account No. 09-0108 in the amount of \$760.00. The Commissioner is hereby authorized to charge any additional fees required under 37 C.F.R. § 1.16 and 1.17, or credit any overpayment to Incyte Pharmaceuticals, Inc. Deposit Account No. 09-0108. A duplicate of this sheet is enclosed.

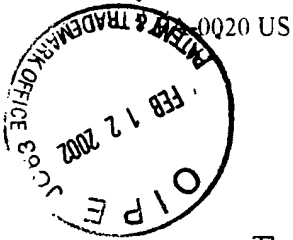
Respectfully submitted,

INCYTE PHARMACEUTICALS, INC.

Date: 5 November 1999

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GENES REGULATED BY HUMAN CYTOKINES
FIELD OF THE INVENTION

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The present invention relates to a plurality of polynucleotides which may be used in detecting genes

5 modulated in response to human cytokines. In particular, the present invention provides for the use of these polynucleotides in the diagnosis of conditions, disorders, and diseases associated with the immune system and immune response.

BACKGROUND OF THE INVENTION

10 Mammalian peripheral blood comprises cells of the erythroid, myeloid, and lymphoid lineages. (See, e.g., Rapaport (1987) Introduction to Hematology, Lipincott, Philadelphia PA; Jandi (1987) Blood: Textbook of Immunology, Little, Brown and Co., Boston MA; and Paul (1998) Fundamental Immunology (4th ed.), Raven Press, New York NY). Each of these lineages are derived from a pluripotent stem cell which, upon exposure to various molecules and other types of cells, differentiate into effector cells which migrate into the
15 blood and other organs. These cells include red blood cells and platelets (erythroid), macrophages and granulocytes (myeloid), and T and B lymphocytes (lymphoid). The latter two groups of cells mediate immune responses to pathogens such as bacteria, parasites, and viruses.

Functional interaction of the cell types involved in immune responses involves transfer of signals via soluble messenger molecules known as cytokines. Both hematopoietic cells and non-hematopoietic cells
20 produce cytokines which stimulate the activation, differentiation and proliferation of T cells, B cells, macrophages, and granulocytes during an active immune response. Cytokines bind to specific receptors expressed on cellular membranes and transduce a signal through the cell. Depending on the type of cytokine and the cell to which it binds, this signal initiates activation, differentiation, growth, and/or apoptosis (Aggarwal and Gutterman (1991) Human Cytokines: Handbook for Basic and Clinical Research, Blackwell,
25 Oxford, UK).

T cells, which respond to and produce a variety of cytokines, are divided into two major groups, CD4⁺ T helper (Th) cells, and CD8⁺ cytotoxic T lymphocytes (CTL). Immune responses are primarily regulated by CD4⁺ Th cells which fall into two subclasses based on the kinds of cytokines they secrete. Th1 cells secrete primarily IL-2 and IFN- γ , regulate the responses of CTLs, B cells, and macrophages, and
30 orchestrate the removal of intracellular pathogens. In contrast, Th2 cells secrete primarily IL-4 and IL-10 and promote the development of certain antibody responses such as IgG1, IgA, and IgE, an excess of the latter triggering allergic responses. In addition, Th2 cells remove extracellular pathogens, which include various



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Bib Data Sheet

CONFIRMATION NO. 4960

SERIAL NUMBER 09/435,247	FILING DATE 11/05/1999 RULE	CLASS 536	GROUP ART UNIT 1631	ATTORNEY DOCKET NO. PA-0020 US
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APPLICANTS

Thierry Sornasse, Mountain View, CA;
Benjamin Graeme Cocks, Sunnyvale, CA;
Bharati Sanjawala, Los Altos, CA;

** CONTINUING DATA *****

** FOREIGN APPLICATIONS *****

IF REQUIRED, FOREIGN FILING LICENSE GRANTED

** 04/28/2000

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Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no	STATE OR COUNTRY CA	SHEETS DRAWING	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 2
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance				
Verified and Acknowledged	Examiner's Signature	Initials		

ADDRESS

Incyte Pharmaceuticals Inc
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Palo Alto, CA 94304

TITLE

Genes regulated by human cytokines

FILING FEE RECEIVED 890	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees (Filing)
		<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)
		<input type="checkbox"/> 1.18 Fees (Issue)
		<input type="checkbox"/> Other _____
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